RECORD OF DECISION

Operable Unit Two

Cornell-Dubilier Electronics, Inc. Superfund Site

South Plainfield, Middlesex County, New Jersey

United States Environmental Protection Agency

Region II

September 2004

DECLARATION STATEMENT

RECORD OF DECISION

SITE NAME AND LOCATION

Cornell-Dubilier Electronics, Inc. (EPA ID# NJD981557879)
Borough of South Plainfield, Middlesex County, New Jersey
Operable Unit 2

STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy to address Operable Unit 2, consisting of contaminated facility soils and buildings, at the Cornell-Dubilier Electronics, Inc. (CDE) Superfund Site, in South Plainfield, New Jersey, which was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record file for the Site.

The State of New Jersey concurs with the Selected Remedy.

ASSESSMENT OF THE SITE

The response action selected in this Record of Decision (ROD) is necessary to protect public health, welfare or the environment from actual or threatened releases of hazardous substances from the Site into the environment.

DESCRIPTION OF THE SELECTED REMEDY

The Selected Remedy described in this document addresses the remediation of contaminated soils and buildings at the former CDE facility. This is the second remedial phase, or operable unit, for the CDE Site, identified as Operable Unit 2 (OU2). A previous Record of Decision, signed in September 2003, selected a remedy to address contaminated soil and interior dust at properties in the vicinity of the former CDE facility. Additional remedial actions are planned to address the contaminated groundwater and the sediments of the Bound Brook. The major components of the Selected Remedy include:

Soils

- excavation of an estimated 107,000 cubic yards of contaminated soil containing polychlorinated biphenyls (PCBs) at concentrations greater than 500 ppm and contaminated soils that exceed New Jersey's Impact to

Groundwater Soil Cleanup Criteria (IGWSCC) for contaminants other than PCBs;

- on-site treatment of excavated soil amenable to treatment by low temperature thermal desorption (LTTD), followed by backfilling of excavated areas with treated soils;
- transportation of contaminated soil and debris not suitable for on-site LTTD treatment to an off-site facility for disposal, with treatment as necessary;
- excavation of an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas and transportation for disposal off site, with treatment as necessary;
- installation of a multi-layer cap or hardscape;
- installation of engineering controls;
- property restoration; and
- implementation of institutional controls.

Buildings

- demolition of the 18 on-site buildings;
- transportation of the building debris off-site for disposal, with treatment as necessary; and
- relocation of eligible tenants at the former CDE facility buildings pursuant to the Uniform Relocation Act, as necessary.

Contingency Remedy

Although certain buildings would have to be demolished as part of the selected soil remedy and an expected redevelopment of the industrial park anticipates demolition of all the existing structures, it is possible that not all of the structures will have to be demolished. Therefore, the Selected Remedy for the buildings includes a contingency remedy that would allow for the decontamination and surface encapsulation of certain buildings that may not need to be demolished. The contingency remedy would require institutional controls to be employed to ensure that any future Site activities are performed with knowledge of the Site conditions and with appropriate health and safety controls, and that the buildings would not be used

for any purposes inconsistent with the continued presence of PCBs within the building materials.

The Selected Remedy will be the final remedy for soils and buildings at the former CDE facility.

DECLARATION OF STATUTORY DETERMINATIONS

Part 1: Statutory Requirements

The Selected Remedy is protective of human health and the environment, complies with federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. The Selected Remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

Part 2: Statutory Preference for Treatment

The Selected Remedy for soils will meet the statutory preference for the use of remedies that employ treatment that reduces toxicity, mobility or volume as a principal element.

Part 3: Five-Year Review Requirements

Because the Selected Remedy will result in hazardous substances remaining on the Site above health-based levels, a statutory five-year review will be conducted within five years after the initiation of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record for this Site.

- Chemicals of concern and their respective concentrations may be found in the "Site Characteristics" section.
- Baseline risk represented by the chemicals of concern may be found in the "Summary of Site Risks" section.
- A discussion of cleanup levels for chemicals of concern may be found in the "Remedial Action Objectives" section.

- A discussion of source materials constituting principal threats may be found in the "Principal Threat Waste" section.

- Current and reasonably-anticipated future land use assumptions are discussed in the "Current and Potential Future Site and Resource Uses" section.

- Potential land uses that will be available at OU2 as a result of the Selected Remedy are discussed in the "Remedial Action Objectives" section.

- Estimated capital, annual operation and maintenance (O&M), and total present worth costs are discussed in the "Description of Alternatives" section.

- Key factors that led to selecting the remedy (i.e., how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decisions) may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections.

_____ _____

Jane M. Kenny
Regional Administrator
Region II

Date

Include -

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs) and risk-based levels established in the risk assessment.

The following remedial action objectives for contaminated soils and buildings will address the human health risks and environmental concerns at the former CDE facility:

- Reduce or eliminate exposure to contaminated soils and building material to levels that are protective of commercial or industrial use, and protective of the environment;
- Prevent/minimize migration of contamination to the Bound Brook from surface soils; and
- Reduce or eliminate the migration of Site contaminants from soil and debris to the groundwater.

In evaluating how best to achieve these RAOs, the planned redevelopment contemplated by the Borough of South Plainfield is a significant consideration. The Borough of South Plainfield has communicated its intention to pursue the redevelopment of the former CDE facility for commercial/retail uses, and EPA has developed Remediation Goals that would be protective under a current-use scenario and a redevelopment scenario, but that would not allow for unrestricted use of the property (e.g., residential use would not be contemplated).

EPA's August 1990 guidance entitled "A guide on Remedial Actions at Superfund Sites with PCB contamination" recommends a cleanup goal between 10 - 25 ppm for commercial/industrial properties. For this Site, EPA has selected a Remediation Goal of 10 ppm for PCBs for direct contact with soils. The State of New Jersey has developed a State-wide non-residential direct contact soil cleanup criterion for PCBs of 2 ppm for commercial/industrial properties, which is a "To Be Considered" criterion. EPA has evaluated the extent of surface soil PCB contamination at the CDE Site and estimates that 96 percent of the surface soil exceeds NJDEP's 2 ppm cleanup criteria, whereas 92 percent of the Site surface area exceeds EPA's 10 ppm cleanup goal. This very small difference in area, coupled with the comprehensive redevelopment plans proposed by the Borough, indicate that a remedy preventing direct contact with contaminated soil using EPA's 10 ppm Remediation Goal would be adequately protective to NJDEP's more stringent 2 ppm criterion.

The RI concluded that the Site poses a potential threat of off-site contaminant migration to the Bound Brook through surface run-off or the existing drainage system, but not through subsurface or groundwater migration. Thus, remedies addressing surface soils would also require measures to manage/prevent off-site migration to the Bound Brook.

EPA has identified principal threat wastes at the CDE Site: soils and debris contaminated with elevated levels of PCBs and VOCs that act as "source materials" because this material contains hazardous substances, pollutants or contaminants that are considered a reservoir for migration of contamination to groundwater. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur.

EPA's 1990 PCB guidance states that principal threats will include contaminated soils at concentrations greater than or equal to 500 ppm PCBs at commercial or industrial sites, and EPA has identified this as the principal threat Remediation Goal for soils at the Site. New Jersey has also developed an impact-to-groundwater cleanup criterion for VOCs in soils, which EPA has identified as a Remediation Goal for the Site to address soils that may act as a continuing source of groundwater contamination.
EPA's April 1998 guidance entitled "Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites" recommends that, for commercial/industrial exposure scenarios, a range of 5 ppb to 20 ppb (TEQs) should generally be used as a starting point for setting Remediation Goals for sites with dioxin in surface soil. Very limited dioxin testing has been performed to date, and additional testing will be required to confirm that dioxin is a concern at the Site. For this Site, EPA has selected a Remediation Goal of 5 ppb for dioxin in soils.

While other contaminants, such as arsenic and lead, were identified in the risk assessment as incremental contributors to the direct contact risks posed by the Site, EPA has not identified specific Remediation Goals for these other contaminants because the primary risk driver, PCBs, is ubiquitous across the Site, and EPA expects that remedies that adequately address the risks posed by PCBs will also address these other contaminants.

DESCRIPTION OF REMEDIAL ALTERNATIVES

CERCLA requires that each remedial alternative be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility or volume of hazardous substances.

CERCLA requires that if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at a site above levels that allow for unlimited use and unrestricted exposure, EPA must review the action no less often than every five years after initiation of the action. In addition, institutional controls (*e.g.*, a deed notice, an easement or a covenant) to limit the use of portions of the

property may be required. These use restrictions are discussed in each alternative as appropriate. The decision as to what kind of restriction is needed may need to wait until after completion of the remedial alternative selected in the ROD. Consistent with expectations set out in the NCP, none of the remedial alternatives evaluated for OU2 rely exclusively on institutional controls to achieve protectiveness. The time frames below for construction do not include the time for remedial design or the time to procure contracts.

The remedial alternatives evaluated for OU2 were limited for several reasons. For example, although several different methods are available to decontaminate PCB-contaminated building surfaces (*i.e.*, vacuum/pressure wash, acid etch, scarification and wipe/solvent wash), these methods were evaluated as a single alternative to allow the parties performing the work the flexibility to select the most appropriate method based on the specific conditions encountered in each of the buildings.

Due to the chemical and physical heterogeneity of the contaminated soil, the alternatives that could permanently address the facility soil were limited. Chemical characteristics of the soil include PCBs, VOCs, SVOCs, and metals. Physical characteristics of the soil include the presence of man-made fill (gravel, cinders, ash, slag) and debris (brick, glass fragments, wood, metal fragments, capacitors). Since principal threat wastes are associated with OU2, treatment of the contaminated soil was considered as a principal element of some of the alternatives developed for OU2.

Common Elements

Several of the soil alternatives include common components. Alternatives S-2 through S-5 require the excavation of the capacitor disposal area and off-site disposal of approximately 7,500 cubic yards of soil and debris found therein (see Appendix I, Figure 4). Although the capacitor disposal area poses a principal threat, treatment of all of the excavated debris was not considered because of the nature of the waste, which is primarily debris, and not amenable to treatment. The Toxic Substances Control Act (TSCA) and the Resource Conservation and Recovery Act (RCRA) are federal laws that mandate procedures for managing, treating, transporting, storing, and disposing of hazardous substances. The excavated

soil and debris from the capacitor disposal area, with PCB concentrations greater than 50 ppm would be transported to a TSCA landfill. Any other contaminated soils that are transported off-site for disposal would be subject to RCRA disposal regulations.

Since contaminants will remain in soil above levels that would allow for unrestricted use, Alternatives S-2 through S-5 all require that institutional controls be employed to ensure that any future Site activities will be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property. In addition, since Alternatives S-1 through S-5 result in contaminants remaining on-site, a review of the Site at least every 5 years will be required. The anticipated future uses for the industrial park being considered by the Borough of South Plainfield are consistent with the future-use scenario incorporated in Alternatives S-2 through S-5.

Alternatives S-3 through S-5 require contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs to be capped with a multi-layer cap. Hardscape (i.e., that part of the Site consisting of structures, parking areas and walkways, made with hard materials) could be used in place of capping.

Due to the limited dioxin data collected at the Site, Alternatives S-2 through S-5 would require additional soil sampling to determine if dioxins and furans would need to be addressed independent of the PCB contamination.

Some of the structures at the industrial park have the potential to qualify as historic properties because of the activities of the Spicer Manufacturing Corporation. As a result, further investigation must be performed to determine if the on-site structures qualify as historic properties. Since all of the active remedial alternatives would affect the structures to some degree, if any structure qualifies as an historic property, it will be necessary to develop an approach to mitigate the effects of the remedial action. It is expected that such an approach would involve performing additional historical research and recordation of the structures.

Based on the results of the Stage IA Cultural Resource Investigation, the southeastern portion of the facility property may contain former land surfaces and associated

cultural resources that relate to pre-historic and/or early historic time periods. Alternatives S-2 through S-5 may expose or disturb archeological/cultural resources that may be eligible for the NRHP. If eligible subsurface archeological sites are discovered within the facility property, and the remedial alternative will affect these significant properties, than an approach, such as data recovery, would be developed to resolve or mitigate the effects of the remedial action.

Because the Borough of South Plainfield's redevelopment plans anticipate commercial reuse of the property, EPA considered the potential for vapor intrusion of VOCs from residual contamination. EPA concluded that vapor intrusion may pose a human health concern under various future-use scenarios. While EPA expects that Alternatives S-2 through S-5 would substantially reduce the potential for vapor intrusion, vapor mitigation systems would need to be evaluated for on-site buildings under any of the remedial alternatives for soils.

Remedial alternatives for OU2 soils are presented below:

Alternative S-1: No Action

Capital Cost:	$0
Annual Operation and Maintenance:	$0
Present Worth:	$0
Estimated Construction Time frame:	None

Regulations governing the Superfund program generally require that the "no action" alternative be evaluated to establish a baseline for comparison. Under this alternative, EPA would take no action at the Hamilton Industrial Park to prevent exposure to the soil contamination and the contaminated soil would be left in place. Existing temporary measures (i.e., paving and fencing) would provide limited protectiveness, if maintained. Redevelopment of the industrial park would pose a high risk of direct contact exposure to construction workers and future users, and may exacerbate off-site contaminant migration.

Alternative S-2: Excavation/Off-Site Disposal/Institutional Controls

Capital Cost:	$111,000,000
Annual Operation and Maintenance (30 years):	$124,000
Present Worth:	$114,000,000
Estimated Construction Time frame:	2 years

This alternative consists of the excavation of soils containing PCBs at concentrations greater than 10 ppm and contaminated soils that exceed New Jersey's Impact to Groundwater Soil Cleanup Criteria (IGWSCC) for contaminants other than PCBs. Under this alternative, an estimated 278,500 cubic yards of contaminated soil would be excavated and transported off-site for proper disposal at a RCRA or TSCA-regulated landfill, as appropriate, based on the concentrations of PCBs in the excavated soils (see Appendix I, Figure 5). This would include an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas that would be excavated and transported off-site for disposal. If necessary, in order to meet the requirements of the disposal facilities, contaminated soil would be treated prior to land disposal using a technology from among the range of technologies identified in the OU2 Feasibility Study.

Post-excavation sampling would be performed to confirm that the specified cleanup levels have been achieved. Any cleanup level exceedances detected during the post-excavation confirmatory sampling would result in additional excavation, treatment (if necessary), and off-site disposal. Once excavation activities had been completed, the excavations would be backfilled with clean soil or non-contaminated on-site soils that had been excavated (i.e., soils excavated to reach contaminated soils at depth) and the surface would be paved and/or vegetated based on the planned future uses.

Alternative S-2 would result in soil contaminated with PCBs remaining on-site at levels that would not allow for unrestricted use. Therefore, engineering and institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property.

Alternative S-3: "Principal Threat" Excavation; Off-Site Disposal/Multi-Layer Cap/Institutional Controls

Capital Cost:	$58,000,000
Annual Operation and Maintenance (30 years):	$560,000
Present Worth:	$72,000,000
Estimated Construction Time frame:	1 to 2 years

This alternative consists of the excavation of soils containing PCBs at concentrations greater than 500 ppm and contaminated soils that exceed New Jersey's IGWSCC for contaminants other than PCBs. Under this alternative, an estimated 114,500 cubic yards of contaminated soil would be excavated and transported off-site for proper disposal at a TSCA-regulated landfill (see Appendix I, Figure 6). This amount would include an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas that would be excavated and transported off-site for disposal. If necessary, in order to meet the requirements of the disposal facilities, contaminated soil would be treated prior to land disposal using a technology from among the range of technologies identified in the OU2 Feasibility Study.

Contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs, would be capped through the use of a multi-layer cap. Hardscape (i.e., that part of the Site consisting of structures, parking areas and walkways, made with hard materials) could be used in place of capping. The total area to be capped would be approximately 20 acres.

In some instances, contaminated soil could be re-used on-site. For example, soil with contaminant concentrations below the specified cleanup levels that had been excavated to remove more contaminated soil located at depth might be reused as fill under the multi-layer cap.

Alternative S-3 would result in soil contaminated with PCBs remaining on-site at levels that would not allow for unrestricted use. Therefore, engineering and institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property.

Alternative S-4: Soil Vapor Extraction/Solidification/Multi-Layer Cap/Institutional Controls

Capital Cost:	$25,000,000
Annual SVE Operating Cost (4 years):	$330,000
Annual Operation and Maintenance (30 years):	$440,000
Present Worth:	$36,000,000
Estimated Construction Time frame:	2 to 3 years

This alternative consists of a combination of technologies to address the contaminated soils at the former CDE facility. In order to address VOCs above IGWSCC, this alternative includes installation of a soil vapor extraction (SVE) system. In addition, this alternative includes the solidification of soils with PCBs at concentrations greater than 500 ppm. Approximately 107,000 cubic yards of soil would be solidified. This alternative also includes the excavation of the capacitor disposal area and off-site disposal of approximately 7,500 cubic yards of soil and debris found therein. If necessary, in order to meet the requirements of the disposal facilities, contaminated soil would be treated prior to land disposal using a technology from among the range of technologies identified in the OU2 Feasibility Study.

Contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs, would be capped through the use of a multi-layer cap. Hardscape (i.e., that part of the Site consisting of structures, parking areas and walkways, made with hard materials) could be used in place of capping. The total area to be capped would be approximately 20 acres.

Alternative S-4 would result in soil contaminated with PCBs remaining on-site at levels that would not allow for unrestricted use. Therefore, engineering and institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property.

Alternative S-5: Low Temperature Thermal Desorption/Multi-Layer Cap/Institutional Controls

Capital Cost:	$40,000,000
Annual LTTD Operating Cost (4.5 years):	$142,000
Annual Operation and Maintenance (30 years):	$440,000
Present Worth:	$52,000,000

Estimated Construction Time frame: 5 to 7 years

This alternative consists of the thermal desorption of approximately 107,000 cubic yards of soil containing PCBs at concentrations greater than 500 ppm and contaminated soils that exceed IGWSCC for contaminants other than PCBs. This alternative would require the construction and operation of a Low Temperature Thermal Desorption (LTTD) unit at the Site. LTTD is a physical separation process, whereby contaminants are typically destroyed in a combustion chamber and the off-gas is treated. Under this alternative, contaminated soils would be treated on-site. The excavated areas would be backfilled with the treated soils. In addition, an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas would be excavated and transported off-site for disposal.

For cost-estimation purposes, the FS assumed that all of the 107,000 cubic yards of soil would be amenable to on-site treatment; however, several factors may limit the ability of an on-site LTTD unit to accommodate this entire volume. The capacitor disposal areas have already been excluded from the treatable soil volume in this Alternative, but other soil handling factors (additional debris, mixed PCB and VOC contamination) may preclude the cost-effective treatment of some soil. Also, the PCB contaminant levels vary widely across the Site, and the most highly-contaminated soils may not be effectively treated with an on-site unit. Off-site disposal would be required for these soils that are not amenable to treatment. Alternative S-5 assumes that the volume of soils sent off-site for disposal would be far more limited than under the
S-3/S-5 Hybrid Alternative discussed below.

Contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs, would be capped through the use of a multi-layer cap. Hardscape (i.e., that part of the Site consisting of structures, parking areas and walkways, made with hard materials) could be used in place of capping. The total area to be capped is approximately 20 acres.

Alternative S-5 would result in soil contaminated with PCBs remaining on-site at levels that would not allow for unrestricted use. Therefore, engineering and institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property.

S-3/S-5 Hybrid Alternative: "Principal Threat" Excavation; Low Temperature Thermal Desorption/Off-Site Disposal/Multi-Layer Cap/Institutional Controls

Capital Cost:	$51,000,000
Annual LTTD Operating Cost (3 years):	$142,000
Annual Operation and Maintenance (30 years):	$440,000
Present Worth:	$62,000,000
Estimated Construction Time frame:	2 to 3 years

In the Proposed Plan for OU2, EPA identified as the preferred alternative for soils a combination, or hybrid, of Alternatives S-3 and S-5. This alternative requires excavation of the approximately 107,000 cubic yards of soil containing PCBs at concentrations greater than 500 ppm and contaminated soils that exceed IGWSCC for contaminants other than PCBs. The excavated soil that is suitable for thermal desorption would be treated using a LTTD unit, and the soil that cannot be successfully treated using LTTD would be transported off-site for disposal.

This alternative would require the construction and operation of a LTTD unit at the Site. LTTD is a physical separation process, whereby contaminants are typically destroyed in a combustion chamber and the off-gas is treated. This alternative assumes that half the 107,000 cubic yards of excavated soils would be treated on-site, and the other half will be transported off-site for disposal. The excavated areas would be backfilled with the treated soils. In addition, an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas would be excavated and transported off-site for disposal.

Whether the excavated soil is treated using the LTTD unit will depend on factors such as the levels of debris found in the soil, the presence of high concentrations of PCBs which would require very long residence times, and the presence of high VOC concentrations that might result in excessive vapor releases during soils handling in preparation for the LTTD unit. Off-site disposal would be required for these soils that are not amenable to treatment or cannot be treated cost-effectively.

Contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs, would be capped through the use of a multi-layer cap. Hardscape (i.e., that part of the Site consisting

of structures, parking areas and walkways, made with hard materials) could be used in place of capping. The total area to be capped is approximately 20 acres.

The S-3/S-5 Hybrid Alternative would result in soil contaminated with PCBs remaining on-site at levels that would not allow for unrestricted use. Therefore, engineering and institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and to prohibit future unrestricted use of the property.

Remedial alternatives for OU2 buildings are presented below:

Alternative B-1: No Action

Capital Cost:	$0
Annual Operation and Maintenance:	$0
Present Worth:	$0
Estimated Construction Time frame:	None

Regulations governing the Superfund program generally require that the "no action" alternative be evaluated to establish a baseline for comparison. Under this alternative, EPA would take no action at the 18 buildings located at the Hamilton Industrial Park to prevent exposure to the contaminated structures.

Alternative B-2: Decontamination and Surface Encapsulation/ Institutional Controls

Capital Cost:	$12,000,000
Annual Operation and Maintenance (30 years):	$220,000
Present Worth:	$18,000,000
Estimated Construction Time frame:	1 to 2 years

In this alternative, surface decontamination would be combined with surface encapsulation and institutional controls. Decontamination involves the removal of surface contamination from surfaces up to several centimeters in depth depending on the method used (*i.e.*, vacuum/pressure wash, acid etch, scarification and wipe/solvent wash). In many cases, extensive decontamination would be required to render

buildings acceptable for future use. Surface encapsulation (e.g., epoxy coating) allows PCB-contaminated porous surfaces to be managed in place while the buildings remain in service, provided that the buildings are surface washed, encapsulated, and marked to indicate the presence of PCBs.

This alternative would also include long-term sampling and monitoring to assess any changes in Site conditions. Five-year reviews, as required by CERCLA, would also be performed to assess the need for future remedial actions. Public awareness programs would be implemented to inform the public and local officials about potential hazards posed by exposure to the contaminated buildings materials. In addition, institutional controls would be employed to ensure that any future Site activities would be performed with knowledge of the Site conditions and implementation of appropriate health and safety controls, and that the buildings would not be used for any purposes that would be inconsistent with the continued presence of PCBs within the building materials, such as residential use. These institutional controls would likely include: 1) an informational notice concerning the Site conditions; and 2) a legal restriction on the future use of the facility property.

In order to implement this alternative, some or all of the tenants at the Hamilton Industrial Park would need to be relocated pursuant to the Uniform Relocation Act.

Alternative B-3: Demolition/Off-Site Disposal

Capital Cost:	$7,000,000
Annual Operation and Maintenance:	$0
Present Worth:	$7,000,000
Estimated Construction Time frame:	1 to 2 years

This alternative consists of the demolition of the 18 buildings located at the Hamilton Industrial Park. Approximately 22,000 tons of debris would be transported off-site for disposal. Since the debris would be disposed of off-site, it is anticipated that there would be no need for institutional controls, no five-year review requirement, and no long-term monitoring requirement in connection with the building structures. Five-year reviews of the Site itself would still be necessary.

Debris designated for off-site disposal would be subjected to analysis for disposal parameters and transported off-site for treatment (as necessary) and disposal in accordance with applicable regulations. During the remedial design, decontamination prior to demolition could be considered to reduce the quantity of hazardous waste. Non-contaminated building debris could be recycled and could be reused on the Site.

In order to implement this alternative, eligible tenants at the Hamilton Industrial Park would need to be relocated pursuant to the Uniform Relocation Act.

COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting the remedy, EPA considered the factors set out in CERCLA Section 121, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR § 300.430(e)(9) and OSWER Directive 9355.3-01. The detailed analysis consisted of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

Threshold Criteria - *The first two criteria are known as "threshold criteria" because they are the minimum requirements that each response measure must meet in order to be eligible for selection as a remedy.*

1. **Overall Protection of Human Health and the Environment**
Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Soils

Alternative S-1, the no action alternative, is not protective of human health and the environment because it does not eliminate, reduce, or control risk of exposure to contaminated soil through off-site disposal, treatment, engineering controls, and/or institutional controls.

Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through off-site disposal/treatment, engineering controls, and institutional controls.

Alternative S-2, excavation and off-site disposal, would remove soil with PCB concentrations above the Remediation Goal of 10 ppm and, therefore, would provide the highest level of protection to both human and environmental receptors from contact with contaminants in the soil.

There would be no local human health or environmental impacts associated with off-site disposal because the contaminants would be removed from the Site to a secure location. Alternative S-2 would eliminate the actual or potential exposure of property owners/occupants to contaminated soils.

Alternatives S-3 through S-5 and the S-3/S-5 Hybrid Alternative would mitigate the potential human health and ecological risks associated with exposure to contaminated soils through the placement of a multi-layer cap and/or hardscape, and through institutional controls such as land-use restrictions, and public education. However, contaminated soils would remain in place above the Remediation Goal for direct contact of 10 ppm for PCBs. The protection would persist only as long as the cap was actively maintained, since contaminants would remain, and a breach of the cap could re-establish human and/or ecological exposure routes.

Alternatives S-2, S-3, S-5 and the S-3/S-5 Hybrid Alternative would achieve the RAOs at the completion of construction. RAOs would be achieved in Alternative S-4 after completion of the SVE treatment and the subsequent solidification of the residual PCB-contamination approximately 4 years after the initiation of construction.

Buildings

Alternative B-1, the no action alternative, is not protective of human health and the environment because it does not eliminate, reduce, or control risk of exposure to contaminated soil through off-site disposal, treatment, engineering controls, and/or institutional controls. In addition,

additional migration of contamination could occur over time under Alternative B-1 as a result of disturbance by humans and natural processes.

Alternative B-2, decontamination and surface encapsulation, would provide some protection to the tenants/occupants at the industrial park from future exposure to contaminated buildings through sealing the contaminated surfaces with an epoxy paint, and through institutional controls such as use restrictions and public education. However, contaminated building materials would remain in place. The protection would persist only as long as the containment measures were actively maintained, since contaminants would remain on-site, and a breach of containment measures could re-establish exposure routes.

Alternative B-3, demolition and off-site disposal, would remove contaminated buildings and, therefore, would protect both human and environmental receptors from contact with contaminants.

There would be no local human health or environmental impacts associated with off-site disposal because the contaminants would be removed from the Site to a secure location. Alternative B-3 would eliminate the actual or potential human exposure to the contaminated structures.

2. **Compliance with applicable or relevant and appropriate requirements (ARARs)**

Section 121(d) of CERCLA, 42 U.S.C. § 9621(d), and 40 CFR § 300.430(f)(1)(ii)(B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate federal laws and state environmental or facility siting laws, collectively referred to as "ARARs", unless such ARARs are waived under CERCLA Section 121(d)(4).

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified

by a state in a timely manner and that are more stringent than federal requirements may be applicable. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.

Compliance with ARARs addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes or provides a basis for invoking a waiver..

Soils

Alternative S-1 Since action-specific ARARs apply to actions taken, they are not applicable to the no action alternative.

Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative would comply with action-specific ARARs. Among the major ARARs applicable to the remedial action for OU2, RCRA and TSCA are federal laws that mandate procedures for managing, treating, transporting, storing, and disposing of hazardous substances. All portions of RCRA and TSCA that are applicable or relevant and appropriate to an OU2 response action would be met by Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative.

EPA's August 1990 PCB guidance recommends a range between 10 and 25 ppm as a cleanup goal for commercial/industrial properties. The State of New Jersey has developed a State-wide, non-residential direct contact soil cleanup criterion for PCBs of 2 ppm for commercial/industrial properties, which is "To Be Considered" criterion. EPA has selected a Remediation Goal of 10 ppm for use in Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative. Alternatives S-2

through S-5 and the S-3/S-5 Hybrid Alternative would provide adequate protection consistent with these guidelines.

Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative would require the implementation of measures to protect wetlands and endangered species, in accordance with federal and state ARARs, such as the "Protection of Wetlands Executive Order," "Wetlands Protection at Superfund Sites," the "Wetlands Act of 1970," the "Freshwater Wetlands Protection Act Rules," the "Endangered Species Act," etc.

Subsurface areas in the southeastern portion of the facility property may contain former land surfaces and associated cultural resources that relate to pre-historic and/or early historic time periods. Therefore, Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative may expose or disturb archeological/cultural resources that may be eligible for the NRHP. If subsurface archeological sites are discovered within the facility property and determined to be eligible for the NRHP under Criterion D (properties that have yielded or may be likely to yield information important in prehistory or history), and if the project would affect these significant properties, then it would be necessary to develop an approach to resolve or mitigate the effects of the remedial action, such as data recovery.

Buildings

Alternative B-1 would not satisfy contaminant-specific ARARs. No action and location-specific ARARs would be triggered by the No Action Alternative.

Alternatives B-2 and B-3 would prevent direct contact with contaminated surfaces in excess of the Remediation Goals and would comply with all ARARs. TSCA is an ARAR. Alternative B-2 would comply with 40 CFR 761.30(p), regarding the use of PCB- contaminated surfaces. Under Alternative B-3, PCB-contaminated building materials would be remediated consistent with 40 CFR 761.79. RCRA is a federal law that mandates procedures for managing, treating, transporting, storing, and disposing of hazardous substances. All portions of RCRA that are applicable or relevant and appropriate would be met by Alternatives B-2 and B-3.
Some of the structures at the industrial park have the potential to qualify as historic properties because of the activities of the Spicer Manufacturing Corporation. As a result, further investigation must be performed to determine

if the on-site structures qualify as historic properties. Since Alternatives
B-2 and B-3 would affect the structures, under either of these alternatives it would be necessary to develop an approach to mitigate the effects of the remedial action. It is expected that such an approach would involve performing additional historical research and recordation of the structures.

Primary Balancing Criteria - The next five criteria are known as "primary balancing criteria". These criteria are factors with which tradeoffs between response measures are assessed so that the best option will be chosen, given site-specific data and conditions.

3. **Long-term Effectiveness and Permanence**
Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

Soils

Alternative S-1 offers no long-term effectiveness and permanence.

Alternative S-2 would be most effective and permanent, as long-term risks would be greatly reduced, since contaminated soils would be permanently removed.

Alternative S-3 would reduce long-term risks, since highly contaminated soils (principal threat wastes) would be removed. Off-site treatment/disposal of the contaminated soil at a secure, permitted hazardous waste facility is reliable because the design of such facilities includes safeguards intended to ensure the reliability of the technology and the security of the waste material. Alternative S-3 relies on capping, other engineering controls, and institutional controls to reduce future health risks to property owners/occupants associated with exposure to contaminated soils.

Alternative S-4 would only immobilize the principal threat waste on the Site and would rely on the effectiveness of the SVE and solidification technologies, capping and institutional controls to reduce future health risks to property

owners/occupants associated with exposure to highly-contaminated soils. Alternatives S-2, S-3, and S-5 are more protective over the long-term than S-4 because they remove and treat the principal threat waste.

Alternative S-5 would reduce long-term risks, since highly contaminated soils (principal threat wastes) would be removed and treated on-site in a LTTD unit. Like Alternative S-3, Alternative S-5 relies on capping, other engineering controls, and institutional controls to reduce future health risks to property owners/ occupants associated with exposure to contaminated soils.

The S-3/S-5 Hybrid Alternative would reduce long-term risks, since highly contaminated soils (principal threat wastes) would be removed and either treated on-site using LTTD, or disposed of off-site at a secure, permitted hazardous waste facility. As noted in the discussion of Alternative S-3, the design of such facilities includes safeguards to ensure the reliability of the technology and the security of the waste system. The S-3/S-5 Hybrid Alternative also relies on institutional controls to reduce future health risks to property owners/occupants associated with exposure to contaminated soils.

Buildings

Alternative B-1 offers no long-term effectiveness and permanence.

Alternative B-2 would not be permanent or as effective over the long term, since the sealant would degrade over time, requiring maintenance, and deed restrictions may not reliably reduce future risks to property owners/occupants associated with exposure to contaminated surfaces.

Under Alternative B-3, long-term risks would be eliminated, since contaminated buildings would be permanently removed. Off-site treatment/disposal of the contaminated building debris at a secure, permitted hazardous waste facility is reliable because the design of such facilities includes safeguards intended to ensure the reliability of the technology and the security of the waste material.

4. **Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment**

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

Soils

Alternative S-1 would not achieve any reduction in the toxicity, mobility or volume of contaminated soil, since the soil would remain in place.

Alternative S-2 does not include treatment as a principal element, though the alternative would reduce contaminant mobility through removal and disposal of the soils at an approved off-site facility. Off-site treatment, when required, would reduce the toxicity and volume of the contaminated soils and debris prior to land disposal. Soils with PCB concentrations less than 50 ppm would be excavated and transported to a RCRA landfill permitted to accept low levels of PCB waste. Soils with PCB concentrations greater than 50 ppm would be excavated and transported to a TSCA landfill. It is anticipated that hazardous material would not be destroyed under Alternatives S-2 through S-4, unless the disposal facility required treatment prior to landfilling.

Alternative S-3 does not include treatment as a principal element, though the alternative would reduce contaminant mobility through removal and disposal of the soils at an approved off-site facility. Furthermore, off-site treatment, when required, would reduce the toxicity and volume of the contaminated soils and debris prior to land disposal.

Alternative S-4 would result in a reduction of contaminant toxicity, mobility, and volume through treatment by the SVE system and excavation of the capacitor disposal areas. Alternative S-4 would also result in a reduction of mobility, but an increase in volume through solidification of PCB-contaminated soils at concentrations greater than 500 ppm. Due to uncertainties associated with the implementability of this alternative (discussed in more detail, below), and the fact that nearly all the contaminated soil would remain on site, Alternative S-4 was considered the least effective at satisfying this criterion over the long term, when compared to the other active remedial alternatives.

Alternative S-5 would be most effective in satisfying this criterion, as soils that undergo thermal desorption would

exhibit a significant reduction in contaminant toxicity, mobility, and volume.

The S-3/S-5 Hybrid Alternative would reduce contaminant toxicity, mobility and volume in the soils treated by LTTD. The contaminant mobility in the soils sent off-site for disposal would also be reduced, and where off-site treatment was required prior to land disposal, this alternative would also reduce the toxicity and volume of the contaminated soils and debris.

Buildings

Alternative B-1 would not achieve any reduction in the toxicity, mobility, or volume of contaminated building material.

Alternative B-2 would result in a reduction of mobility through encapsulation, but no substantial reduction of toxicity or volume of contaminants.

Alternative B-3 does not include treatment as a principal element, though the alternative would reduce contaminant mobility through removal and disposal of the building debris at an approved off-site facility.

5. **Short-term Effectiveness**

Short-term effectiveness addresses short-term risks to the community, workers and the environment during the construction and implementation of the remedial alternatives, and the effectiveness and reliability of protective and mitigative measures.

Soils

Alternative S-1, the no action alternative, poses no short-term risks.

Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative present short-term risks because of the potential for exposure associated with excavation and transportation of contaminated soils. Alternative S-2 presents the highest short-term risk because it would require the excavation and transportation off- site of the largest volume of contaminated soils. Alternatives S-4 and S-5 present a higher short-term risk than Alternative S-3 because of the greater potential for

exposure associated with treating soils on-site. Alternative S-5 would result in higher air emissions than the other alternatives. The S-3/S-5 Hybrid Alternative would present short-term risks associated with excavation and handling contaminated soils on-site, including air emissions, though the emissions would be less than those associated with Alternative S-5. The S-3/S-5 Hybrid Alternative would also present short-term risks associated with transportation off-site of contaminated soil not suitable for treatment by LTTD, though this risk would be less than the risk presented by Alternative S-3.

Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative would cause an increase in truck traffic, noise and potentially dust in the surrounding community, as well as potential impacts to workers during the performance of the work. These potential impacts would be created through construction activities and exposure to the contaminated soil being excavated and handled. However, proven procedures including engineering controls, personnel protective equipment and safe work practices would be used to address potential impacts to workers and the community. For example, under Alternatives S-2 through S-4, the work would be scheduled to coincide with normal working hours (e.g., 8 a.m. to 5 p.m. on week days and no work on weekends or holidays). On-site treatment using an LTTD system, as required by Alternative S-5, typically requires 24 hours of operation to achieve maximum efficiency, so use of daily time constraints would reduce the effectiveness of this technology. Operation of an LTTD system immediately adjacent to a residential community would generate noise and some disturbance to the community. Under the S-3/S-5 Hybrid Alternative, the working hours for the excavation and off-site transportation would be scheduled as under Alternative S-2.

Trucking routes with the least disruption to the surrounding community would be utilized. Appropriate transportation safety measures would be required during the shipping of the contaminated soil to the off-site disposal facility.

No short-term environmental impacts would be expected from Alternative S-1. The risk of release during implementation of Alternatives S-2 through S-5 and the S-3/S-5 Hybrid Alternative is principally limited to wind-blown soil transport or surface water runoff. Any potential environmental impacts associated with dust and runoff would be minimized with proper installation and implementation of dust

and erosion control measures and by performing the excavation and off-site disposal with appropriate health and safety measures to limit the amount of material that may migrate to a potential receptor.

Alternative S-5 and the S-3/S-5 Hybrid Alternative also present short-term risk because of the potential for exposure associated with treating soils on-site, and because of the potential air emissions from the LTTD system. These risks would be mitigated by engineering controls, use of personal protective equipment, safe work practices and air monitoring. The S-3/S-5 Hybrid Alternative presents less short-term risk than Alternative S-5 as it assumes on-site treatment of a smaller volume of contaminated soil.

The time required for implementation of Alternative S-2 is estimated at 2 years. Alternative S-3 is estimated to take 1 to 2 years. Alternative S-4 is estimated to take 2 to 3 years, and Alternative S-5 is estimated to take about 5 to 7 years to implement. The estimated time required for implementation of the S-3/S-5 Hybrid Alternative is 2 to 3 years. The time frame for Alternative S-4 assumes concurrent implementation of the SVE and solidification treatment technologies; however, the SVE treatment may need to be completed before solidification can be undertaken on portions of the Site, extending the time frame for this alternative to as much as 6 to 8 years. The time frames discussed in this section account for the time to construct each alternative, but not the time required for Remedial Design or other administrative costs, or enforcement-derived delays. Even the remedial alternatives with the shortest implementation time frames are expected to require several years of preparation time before they can be implemented. Alternative S-5 would have the longest construction time frame. Alternative S-5 might also result in preconstruction delays derived from siting and air permitting for an on-site treatment facility. Alternative S-2 and S-3 would have the shortest construction time frames and probably would pose the fewest challenges prior to starting construction. Alternative S-4 would require treatability studies to determine actual construction time frames, adding a level of uncertainty to the time frames developed in the FS, and would also have a longer preconstruction time period than the other alternatives that would not need treatability studies. Although the S-3/S-5 Hybrid Alternative would result in preconstruction delays derived from siting and air permitting for an on-site treatment facility, similar to Alternative S-5, EPA expects

that the time required to implement the S-3/S-5 Hybrid Alternative would be 2 to 3 years, minimizing the impact on the community and returning the property to the community for productive use sooner.

EPA expects that any of the remedial alternatives could be implemented in a phased manner that would allow for the initiation of the Borough's redevelopment plan concurrent with the implementation of the remedy. For example, the remedial construction might start with the remediation of the Site at one property line and create remediation areas for a designated developer to then start its work. Under this scenario, the remedial alternatives that rely on capping would integrate the capping requirements with the designated redevelopment infrastructure. Alternatives S-2 and S-3 appear to offer the fewest constraints to this joint remediation/redevelopment approach, and Alternative S-5 the most constraints, including the long remediation time frame and the relatively large foot print of the LTTD unit. Alternative S-4 again has the most uncertainties, including the sequencing of SVE (to treat VOCs) followed by solidification (to treat PCBs), and the volume increases attributable to solidification that might influence the scope of the redevelopment effort.

Buildings

Alternative B-1, the no action alternative, poses no short-term risks to the community.

Alternatives B-2 and B-3 pose short term-term risks based upon the potential for exposure to contaminated building material and transportation of contaminated building debris. Alternative B-3 would pose the greatest short-term risks, as it would also cause an increase in truck traffic, noise and potentially dust in the surrounding community, as well as potential impacts to workers during the performance of the work. These potential impacts would be created through construction activities and exposure to the contaminated buildings being demolished and handled. However, proven procedures including engineering controls, personnel protective equipment and safe work practices would be used to address potential impacts to workers and the community.

No short-term environmental impacts would be expected from Alternative B-1. The risk of release during implementation of Alternatives B-2 and B-3 is principally limited to wind-blown

dust transport and surface water runoff for Alternative B-3. Any potential environmental impacts associated with dust and runoff would be minimized with proper installation and implementation of dust and erosion control measures and by performing decontamination and demolition with appropriate health and safety measures to limit the amount of material that may migrate to a potential receptor.

The time required for implementation of Alternatives B-2 and B-3 is estimated at one to two years. These construction time frames do not take into consideration the time required for remedial design or for relocation of the tenants at the industrial park for Alternatives B-2 and B-3.

6. **Implementability**

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are considered.

Soils

Alternative S-1 requires no implementation.

Alternatives S-2 and S-3 can be implemented using conventional equipment and services that are readily available. The personnel required to operate the heavy equipment would require appropriate Occupational Safety and Health Administration (OSHA) certifications (e.g., hazardous waste worker), in addition to being certified in the operation of heavy equipment. Such individuals are readily available. Off-site hazardous and non-hazardous treatment/disposal facilities for the disposal of the contaminated soils are available, so disposal would be feasible.
Alternative S-4 would require treatability studies, during remedial design, to evaluate how best to implement the SVE system to remove the VOCs, and the solidification of the PCBs. The additional studies would be necessary due to the heterogeneity of the contaminants and debris in the soil. Even after treatability studies to determine the appropriate injection points, solidification agents, dosage rates, and other performance parameters, the technical uncertainties regarding the implementability of Alternative S-4 would still be highest among all the alternatives considered. As discussed under Short-term Effectiveness, Alternative S-4 also

poses some uncertainties for the subsequent redevelopment planning, with regard to volume increase of soils (due to solidification) and the potential difficulty of implementing the redevelopment project while the SVE system is operating.

Alternative S-5, operation of an on-site LTTD system adjacent to a residential community, would generate noise and some disturbance to the community. At other sites where EPA has sited temporary treatment units in or near residential communities, the level of community resistance to the project varies. There exist a number of uncertainties associated with Alternative S-5. For cost-estimation purposes, it was assumed that all the soil could be successfully treated using a mobile LTTD unit; however, soil mixed with debris, soil handling concerns and high PCB concentrations that would result in very long residence times are likely to limit the implementability of this treatment method for at least some large fraction of the soil.

The S-3/S-5 Hybrid Alternative also raises some of the concerns of Alternative S-5 related to operation of an on-site LTTD system adjacent to a residential community, but the noise and disturbance to the community would not be as great as a smaller volume of contaminated soil would be treated by the LTTD system. Moreover, by incorporating the off-site disposal of contaminated soils that could not be successfully treated using the on-site LTTD system, this alternative avoids the implementability limitations associated with soil mixed with debris, and soil with high PCB or VOC concentrations. As with Alternative S-3, the personnel required to operate the heavy equipment for the excavation and off-site transportation element of this alternative, and off-site hazardous and non-hazardous treatment/ disposal facilities for the disposal of the contaminated soils, would be readily available.

Buildings

Alternative B-1 requires no implementation.

Alternatives B-2 and B-3 would be easily implemented using conventional construction equipment and materials. Off-site hazardous and non-hazardous treatment/disposal facilities for the disposal of the contaminated building debris are available and disposal would be feasible. Factors associated with relocation affect the implementability of both Alternatives B-2 and B-3.

7. **Cost**

Cost includes estimated capital and operation and maintenance costs, and net present-worth values.

Soils

The cost of Alternative S-1 is $0.

The estimated present worth cost of Alternative S-2 is $114,000,000. This alternative has no operation and maintenance costs.

The estimated present worth cost of Alternative S-3 is $72,000,000, which includes operation and maintenance costs over a 30-year period.

The estimated present worth cost of Alternative S-4 is $36,000,000, which includes annual SVE operating costs for four years and operation and maintenance costs over a 30-year period.

The estimated present worth cost of Alternative S-5 is $52,000,000, which includes annual LTTD operating costs for up to five years and operation and maintenance costs over a 30-year period.

The estimated present worth cost of the S-3/S-5 Hybrid Alternative is $62,000,000, which includes annual LTTD operating costs for up to 3 years and operation and maintenance costs over a 30-year period.

Buildings

The cost of Alternative B-1 is $0.

The estimated present worth cost of Alternative B-2 is $18,000,000, which includes operation and maintenance costs over a 30-year period. Alternative B-3 has an estimated present worth cost of $7,000,000.

Modifying Criteria *- The final two evaluation criteria, criteria 8 and 9, are called "modifying criteria" because new information or comments from the state or the community on the Proposed Plan may lead to modification of the preferred response measure or cause another response measure to be considered.*

8. **State Acceptance**

State acceptance indicates whether, based on its review of the RI/FS reports and the Proposed Plan, the state supports, opposes, and/or has identified any reservations with regard to the selected response measure.

The State of New Jersey concurs with the Selected Remedy for the facility soils and buildings.

9. **Community Acceptance**

Community acceptance summarizes the public's general response to the response measures described in the Proposed Plan and the RI/FS reports. This assessment includes determining which of the response measures the community supports, opposes, and/or has reservations about.

EPA solicited input from the community on the remedial alternatives proposed for OU2 at the Cornell-Dubilier Electronics Site and received extensive oral and written comments. The attached Responsiveness Summary addresses the comments received during the public comment period. The community (residents and business neighbors of the facility) was generally supportive of EPA's Proposed Plan. A group of PRPs submitted comments that questioned the Remediation Goals for PCBs and VOCs in soils identified in the Proposed Plan as too conservative given the likely future property uses, and proposed a modified version of Alternative S-4 as an alternative remedy for OU2. EPA received written and oral comments from the representatives of a local environmental group indicating that the Remediation Goals for PCBs in soil identified in the Proposed Plan may not be adequately protective, and expressing concerns about the current occupancy of the on-site buildings. The Borough of South Plainfield submitted written comments requesting that EPA select the most expeditious and cost-effective remedy that would expedite redevelopment of the facility property, thereby supporting the PRPs' alternative remediation plan. In contrast, the Borough's Environmental Commission submitted written comments supporting EPA's Proposed Plan.

PRINCIPAL THREAT WASTE

EPA's findings to date indicate the presence of "principal threat" wastes at the former CDE facility property. Principal threat wastes are considered source materials, i.e., materials that include or contain hazardous substances, pollutants or

contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur.

By utilizing treatment as a significant portion of the soil remedy, the statutory preference for remedies that employ treatment as a principal element is satisfied.

SELECTED REMEDY

Based upon consideration of the results of the Site investigations, the requirements of CERCLA, the detailed analysis of the response measures, and public comments, EPA has determined that a combination of Alternative S-3 and Alternative S-5 is the appropriate remedy for contaminated soils at the Site. Furthermore, Alternative B-3 is the appropriate remedy for contaminated buildings at the Site. These remedies best satisfy the requirements of CERCLA Section 121 and the NCP's nine evaluation criteria for remedial alternatives, 40 CFR § 300.430(e)(9). These remedies are comprised of the following components:

Soils

- excavation of an estimated 107,000 cubic yards of contaminated soil containing PCBs at concentrations greater than 500 ppm and contaminated soils that exceed New Jersey's IGWSCC for contaminants other than PCBs;
- on-site treatment of excavated soil amenable to treatment by LTTD, followed by backfilling of excavated areas with treated soils;
- transportation of contaminated soil and debris not suitable for on-site LTTD treatment to an off-site facility for disposal, with treatment as necessary;
- excavation of an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas and transportation for disposal off site, with treatment as necessary;

- installation of a multi-layer cap or hardscape;
- installation of engineering controls;
- property restoration; and
- implementation of institutional controls.

EPA concluded that neither Alternative S-3 nor Alternative S-5 alone would provide sufficient flexibility during the remedial action to address this very complex Site, but that a combination of the two alternatives would be successful. For example, the FS assumed that 100 percent of the soils to be excavated under Alternative S-5 could be successfully treated using LTTD, whereas several factors are likely to make treatment of a large quantity of soil impracticable. These factors include soils handling issues related to levels of debris found in the soil, the high PCB concentrations that may require very long residence times or repeated passes through the LTTD unit, and the high VOC concentrations in some soils that may result in vapor releases during soils handling in preparation for the LTTD unit. Where these factors occur, Alternative S-3 (off-site disposal) would be more appropriate. EPA anticipates that soils treated by the on-site LTTD will achieve a treatment goal of 10 ppm for PCBs prior to being backfilled on-site.

As noted in the comparative analysis of alternatives, in the Short-Term Effectiveness section, EPA expects that the Selected Remedy for soils would be performed in 2 to 3 years, closer to the time frame for Alternative S-3. The hybrid Alternative
S-3/S-5 remedy assumes that approximately 50 percent of the 107,000 yards of contaminated soil identified in the FS would be amenable for treatment on site and the remainder would be addressed through off-site disposal.

Because the Borough of South Plainfield's redevelopment plans anticipate commercial reuse of the property, EPA considered the potential for vapor intrusion of VOCs from residual contamination. EPA concluded that vapor intrusion may pose a human health concern under various future-use scenarios. While the Selected Remedy would be expected to substantially reduce the potential for vapor intrusion, vapor mitigation systems would need to be evaluated for any buildings to be built in the future.

The Selected Remedy requires contaminated soils containing less than 500 ppm, but greater than 10 ppm PCBs to be capped through the use of a multi-layer cap. Hardscape (i.e., that part of the site consisting of structures, parking areas and walkways, made with hard materials) could be used in place of capping. NJDEP has indicated that soils containing PCBs greater than New Jersey's non-residential direct contact soil cleanup criterion of 2 ppm would be subject to engineering controls.

Subsurface areas in the southeastern portion of the Site may contain former land surfaces and associated cultural resources that relate to pre-historic and/or early historic time periods. Therefore, the Selected Remedy may expose or disturb archeological/cultural resources that may be eligible for the NRHP. If subsurface archeological sites are discovered within the facility property and determined to be eligible for the NRHP under Criterion D (properties that have yielded or may be likely to yield information important in prehistory or history), and if the project would affect these significant properties, then it would be necessary to develop an approach to resolve or mitigate the effects of the remedial action, such as data recovery.

Buildings

- demolition of the 18 on-site buildings;
- transportation of the building debris off-site for disposal, with treatment as necessary; and
- relocation of the eligible tenants at the industrial park pursuant to the Uniform Relocation Act, as necessary.

Although certain buildings will have to be demolished as part of the selected soil remedy, and the expected redevelopment of the industrial park anticipates demolition of all the existing structures, it is possible that not all of the structures will have to be demolished for those two reasons. Therefore, the Selected Remedy for the buildings includes a contingency remedy that would allow for the decontamination and surface encapsulation of certain buildings that may not need to be demolished for the reasons cited above. The implementation of the contingency remedy for certain buildings that do not need to be demolished would achieve the Remedial Action Objectives, while allowing the property owner(s) and/or the parties performing the work to determine the ultimate fate of the

buildings. The contingency remedy would require institutional controls to be employed to ensure that any future Site activities are performed with knowledge of the Site conditions and with implementation of appropriate health and safety controls, and that the buildings would not be used for any purposes inconsistent with the continued presence of PCBs within the building materials.

Some of the structures at the industrial park have the potential to qualify as historic properties because of the activities of the Spicer Manufacturing Corporation. As a result, further investigation must be performed. Since the Selected Remedy would affect the structures, if the on-site structures qualify as historic properties, it would be necessary to develop an approach to mitigate the effects of the remedial action. It is expected that such an approach would involve performing additional historical research and recordation of the structures.

During the remedial design, decontamination prior to demolition could be considered to reduce the quantity of hazardous waste. Non-contaminated building debris could be recycled and could be reused on-site.

The estimated present worth cost of EPA's Selected Remedy for soils is $62 million. This estimate assumes 50 percent of the 107,000 cubic yards of soil will be addressed through LTTD and placed back on the Site, and the remainder will be sent off-site for disposal. Even if only a limited quantity of soils can be treated using LTTD, this S-3/S-5 hybrid also satisfies another of EPA's mandates under the Superfund program, to treat principal threat wastes to the maximum extent practicable. The estimated present worth cost of EPA's Selected Remedy for buildings is $7,000,000. A summary of the estimated remedy costs is included in Appendix II, Tables 9 and 10. The information in the cost estimate summary tables is based on the best available information regarding the anticipated scope of the Selected Remedy. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the Selected Remedy. Major changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Differences, or a ROD amendment.

The combination of Alternatives S-3 and S-5, and Alternative B-3 is believed to provide the best balance of trade-offs among the alternatives with respect to the evaluation

criteria. EPA and NJDEP believe the Selected Remedy will be protective of human health and the environment, will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, will be cost-effective, and will utilize permanent solutions and treatment technologies to the maximum extent practicable. Even if only a limited quantity of contaminated soils can be treated using LTTD, the hybrid soil alternative would also meet the statutory preference for the use of remedies that employ treatment that reduce toxicity, mobility or volume as a principal element.

APPENDIX V

RESPONSIVENESS SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND, INC. SITE
OPERABLE UNIT TWO

INTRODUCTION

This Responsiveness Summary provides a summary of the public's comments and concerns regarding the Proposed Plan for the Cornell-Dubilier Electronics, Inc. Site, and EPA's responses to those comments. At the time of the public comment period, EPA proposed a preferred alternative for remediating soils and buildings at the former Cornell-Dubilier Electronics facility, which has been designated Operable Unit 2 (OU2). All comments summarized in this document have been considered in EPA's final decision for the selection of a remedial alternative for OU2.

This Responsiveness Summary is divided into the following sections:

I. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS: This section provides the history of community involvement and interests regarding the Cornell-Dubilier Electronics Site.

II. COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS AND RESPONSES: This section contains summaries of oral comments received by EPA at the public meeting, EPA's responses to these comments, as well as responses to written comments received during the public comment period.

The last section of this Responsiveness Summary includes attachments, which document public participation in the remedy selection process for this Operable Unit. They are as follows:

Attachment A: the Proposed Plan that was distributed to the public for review and comment;

Attachment B: the public notices that appeared in Observer-Tribune and the Courier-News;

Attachment C: the transcript of the public meeting; and

Attachment D: the written comments received by EPA during the public comment period.

D. WRITTEN COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD FROM 1) TINA RUSSELL; 2) LINDA LOVELLO; 3) PATRICIA E. MILLER; 4)ROBERT SPIEGEL, EXECUTIVE DIRECTOR OF THE EDISON WETLANDS ASSOCIATION; 5) THOMAS POLITOWSKI; 6) JEANNIE POLITOWSKI; 7) DANIEL POLITOWSKI; 8) DEVIN POLITOWSKI; AND 9) KIM POLITOWSKI*

* The following identical written comments were received separately from the above-referenced individuals.

Comment #D.1: *As you may know, Cornell-Dubilier Electronics is an extremely hazardous site even by Superfund Standards. The EPA's own risk assessment has found that this site poses a cancer risk in excess of 3 out of 100. And one of the highest levels of PCBs in the State of New Jersey are found in the fish caught in the Bound Brook adjacent to Cornell-Dubilier, where many local residents still unknowingly fish. The EPA is proposing to leave PCB levels at 500 parts per million (ppm) after cleanup, or 250 times the State-allowed level of 2 ppm. We strongly disagree with this irresponsible proposal, and ask the EPA to use the acceptable State standard of 2 parts per million.*

EPA Response: EPA's August 1990 guidance entitled "A guide on Remedial Actions at Superfund Sites with PCB contamination" recommends a cleanup goal between 10 - 25 ppm for commercial/industrial properties. For this Site, EPA has selected a Remediation Goal of 10 ppm for PCBs for direct contact with soils. Under the Selected Remedy, PCB-contaminated soil will remain on-site at concentrations up to 500 ppm. The Selected Remedy requires the installation of a multi-layer cap, engineering controls, and institutional controls to address these areas to prevent direct contact with residual contamination.

The State of New Jersey has developed a non-residential direct contact soil cleanup criterion for PCBs of 2 ppm for commercial/industrial properties. Because this is not a promulgated standard, it is not an "Applicable or Relevant and Appropriate" standard, but a "To Be Considered" criterion. EPA has evaluated the extent of surface soil PCB contamination at OU2 of the CDE Site and estimates that 96 percent of the surface soil exceeds NJDEP's 2 ppm cleanup criterion, whereas 92 percent of the surface soil exceeds EPA's 10 ppm Remediation Goal. This very small difference in area, coupled with the future-use plans for the Site, indicate that a remedy preventing direct contact with soils containing PCBs above EPA's 10 ppm Remediation Goal would be adequately protective, as compared to NJDEP's more stringent 2 ppm criterion. NJDEP disagrees with EPA's selection of a 10 ppm Remediation Goal for direct contact, preferring the 2 ppm criterion, but concurs with EPA's Selected Remedy that entails addressing the principal threats at the Site through excavation and treatment or off-site disposal and using capping and institutional controls to manage the lower level threats posed by the Site.

Comment #D.2: *It is obvious that the EPA is placing more priority on redevelopment and cost concerns than on human health and the environment.*

EPA Response: Although EPA has considered the redevelopment and the future use of the industrial park in the development of the FS for OU2, EPA's priority for this Site is protecting public health and the environment. In developing the remedial alternatives for this operable unit, EPA ensured that each of the remedies evaluated, except the no action alternative, would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through off-site disposal/treatment, engineering controls and/or institutional controls. The Remediation Goal of 10 ppm is within EPA's protective risk range for commercial/industrial properties.

EPA takes into consideration the interests of the community and future-use plans when developing remedial alternatives. The Borough of South Plainfield considers the redevelopment of the Hamilton Industrial Park a high priority, and EPA included several redevelopment considerations, such as flexible capping criteria, in the remedial alternatives, and considered the redevelopment in its discussion of the nine evaluation criteria, under the "Short-term Effectiveness" section.

E. WRITTEN COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD FROM DEBORAH A. MANS, ESQ., POLICY DIRECTOR, NY/NJ BAYKEEPER

Comment #E.1: *Baykeeper is extremely troubled by the EPA's proposal to leave PCB levels at 500 parts per million (ppm) on the site after clean-up. This is 250 times the State-allowed level of 2 ppm for unrestricted use. While state regulations do allow the establishment of site-specific criteria, the EPA has not demonstrated that the levels it is proposing will be as protective as the 2 ppm level.*

EPA Response: See response to Comment D.1, above.

Comment #E.2: *Indeed, the proposed plan for remedial action is sorely lacking in any specifics as to how the contamination left on-site will be isolated. The multi-layer cap for the levels of PCBs between 10 and 500 ppm is undefined and the engineering controls for the levels of PCBs between 2 and 10 ppm are likewise undefined. How is the public supposed to comment on and be aware of the methods for protecting the public health when the proposed plan leaves this issue vague and undefined? It also places a question on the priority for the EPA on this site - is it the protection of the environment and public health or the speedy redevelopment of this site?*

EPA Response: Section 4 of the FS Report for OU2 describes a multi-layer cap system as a combination of two or more single layer capping technologies. Figure 4-3 of the FS Report shows a typical cross-section for a multi-layer cap system, although other designs are possible that achieve the same goals. In addition, "hardscape" surfaces (*e.g.*, building foundations, concrete walkways, asphalt parking areas) could be used in conjunction with the multi-layer cap. At this Site, EPA found there to be very little difference in protectiveness between EPA's Remediation Goal of 10 ppm and the NJDEP criterion of 2 ppm: both would require capping of more than 90 percent of the Site, and the remaining 10 percent of the Site would be subject to some type of

engineering control, such as a soil cover, under either Remediation Goal. Also, see EPA's response to comment D.2, above.

Considering that the facility is an active industrial park, EPA believes that the property owner(s) and/or the parties performing the work should be allowed flexibility in the design of the cap in order to accommodate any future redevelopment. However, any design must achieve the goals and standards established by EPA and NJDEP. In order to address the community's concern, this information will be made available during the remedial design phase.